

ON THE RANCH OUTSIDE AUSTIN where he and his father planned a hunt, Spencer O'Loughlin watches fellow hunters clean and pose with a buck. Teens may choose to hang out with peers, but structured interactions with parents and other adults are also crucial. O'Loughlin returned empty-handed after four days of waiting with a bow and arrow in a tiny camouflage tent, where even a head scratch could have scared off the quarry. To him the trip was an exercise in patience. Psychologists would call it a rite of passage.

MEANWHILE, in times of doubt, take inspiration in one last distinction of the teen brain—a final key to both its clumsiness and its remarkable adaptability. This is the prolonged plasticity of those late-developing frontal areas as they slowly mature. As noted earlier, these areas are the last to lay down the fatty myelin insulation—the brain's white matter—that speeds transmission. And at first glance this seems like bad news: If we need these areas for the complex task of entering the world, why aren't they running at full speed when the challenges are most daunting?

The answer is that speed comes at the price of flexibility. While a myelin coating greatly accelerates an axon's bandwidth, it also inhibits the growth of new branches from the axon. According to Douglas Fields, an NIH neuroscientist who has spent years studying myelin, "This makes the period when a brain area lays down myelin a sort of crucial period of learning—the wiring is getting upgraded, but once that's done, it's harder to change."

The window in which experience can best rewire those connections is highly specific to each brain area. Thus the brain's language centers acquire their insulation most heavily in the first 13 years, when a child is learning language. The completed insulation consolidates those gains—but makes further gains, such as second languages, far harder to come by.

So it is with the forebrain's myelination during the late teens and early 20s. This delayed completion—a withholding of readiness—heightens flexibility just as we confront and enter the world that we will face as adults.

This long, slow, back-to-front developmental wave, completed only in the mid-20s, appears to be a uniquely human adaptation. It may be one of our most consequential. It can seem a bit crazy that we humans don't wise up a bit earlier in life. But if we smartened up sooner, we'd end up dumber. □

BRAIN GAMES

Delve deep into the workings of the human mind in a three-part special airing this month on **National Geographic Channel**. Check local listings.



TEENAGE BRAIN 59

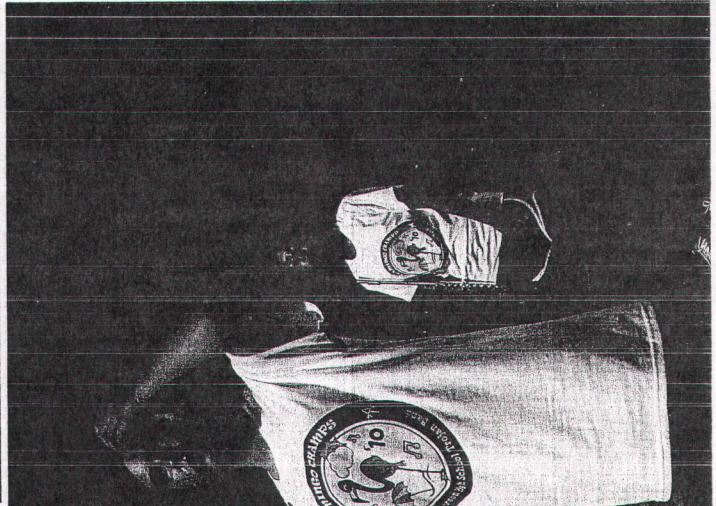
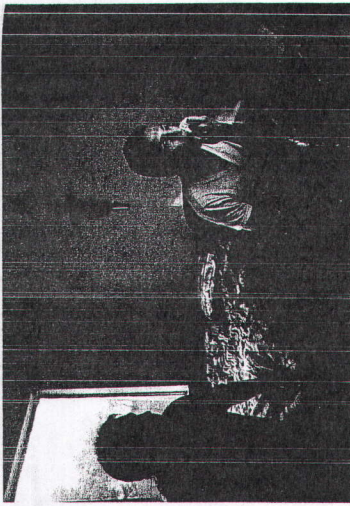
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crucially adaptive human beings around. Without them, humanity might not have so readily spread across the globe.

THIS ADAPTIVE-ADOLESCENCE view, however accurate, can be tricky to come to terms with—the more so for parents dealing with teens in their most trying, contrary, or flat-out scary moments. It's reassuring to recast worrisome aspects as signs of an organism learning how to negotiate its surroundings. But natural selection swings a sharp edge, and the teen's sloppier moments can bring unbearable consequences. We may not run the risk of being killed in ritualistic battles or being eaten by leopards, but drugs, drinking, driving, and crime take a mighty toll. My son lives, and thrives, sans car, at college. Some of his high school friends, however, died during their driving experiments. Our children wield their adaptive plasticity amid small but horrific risks.

We parents, of course, often stumble too, as we try to walk the blurry line between helping and hindering our kids as they adapt to adulthood. The United States spends about a billion dollars a year on programs to counsel adolescents on violence, gangs, suicide, sex, substance abuse, and other potential pitfalls. Few of them work.

Yet we can and do help. We can ward off some of the world's worst hazards and nudge adolescents toward appropriate responses to the rest. Studies show that when parents engage and guide their teens with a light but steady hand, staying connected but allowing independence, their kids generally do much better in life. Adolescents want to learn primarily, but not entirely, from their friends. At some level and at some times (and it's the parent's job to spot when), the teen recognizes that the parent can offer certain kernels of wisdom—knowledge valued not because it comes from parental authority but because it comes from the parent's own struggles to learn how the world turns. The teen rightly perceives that she must understand not just her parents' world but also the one she is entering. Yet if allowed to, she can appreciate that her parents once faced the same problems and may remember a few things worth knowing.



HEADLINE LEADERS Adults can guide teens as conductors, coaches, and cheerleaders. You just have to know when to pull back, says neuroscientist B. J. Casey, and let the teen do the work.

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IN THE
United States District Court
 For The Northern District of Illinois

Darrin Wayne Shatner
 Plaintiff,

v.

Mike Atchison

Defendant

Case No. 12-C-97

PROOF/CERTIFICATE OF SERVICE

TO: The Clerk of The above
Court at
219 S. Dearborn St
Chicago, IL 60604

TO: _____

TO: Attorney General's Office
Michael R. Blankenheim
100 Randolph St 12th Floor
Chicago, IL 60601-3218

TO: _____

PLEASE TAKE NOTICE that on April 30, 2012, I have placed the documents listed below in the institutional mail at Minard Correctional Center, properly addressed to the parties listed above for mailing through the United States Postal Service: Reply To Attorney General Response To Dismiss Motion to Stay and Ebay. Plus Exhibits of Leave to File successive Post Stamped Filed 3 copies to Court
1. copy to Attorney General.

(Exhibits also include Letter from circuit Court + my Letter.)

Pursuant to 28 USC 1746, 18 USC 1621 or 735 ILCS 5/109, I declare, under penalty of perjury, that I am a named party in the above action, that I have read the above documents, and that the information contained therein is true and correct to the best of my knowledge.

DATE: 4-30-2012

/s/ Darrin Shatner
 NAME: Darrin Shatner
 IDOC#: B-42950
Minard Correctional Center
 P.O. BOX 1000
Minard, IL 62259